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HALOGEN GAS INJECTION TYPE STABLE OUTPUT EXCIMER LASER DEVICE

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Abstract:

PURPOSE

To stabilize the output of an excimer laser under an open loop control by deciding reduction amount of halogen gas at a predetermined laser output to be used for the excimer laser by previously measuring a laser output reducing characteristic and halogen gas injection amount-laser output characteristic.

CONSTITUTION

After laser gas 6 is injected in a laser tube 1, settings of a charging voltage and a repetition frequency of a laser power source 15 are matched to a predetermined laser output by an excimer laser output controller 13, a laser oscillation is started, and a laser output reducing characteristic due to lapse of a time is measured for a predetermined time. The laser output is measured by the controller 13 through a laser output signal line 14 from a power meter 12. Then, the laser oscillation is continued as it is, halogen gas is injected by a halogen gas injection system 5, and the halogen gas injection amount until returned to the initial laser output is measured. The injection amount is obtained from a flowrate signal of the controller

to a gas flowrate regulator 18 through a gas flowrate regulator control signal line 21 and the injection time.

JAPIO

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